Claims:

1. A system for monitoring a machine, said system comprising:

a) a machine monitoring device operatively connected to said machine, said machine monitoring device comprising:

i) a plurality of input and output connectors, connected to an engine;

ii) a configuration interface connected to said engine;

iii) a database system connected to said configuration interface;

iv) a web server connected to said configuration interface; and

b) a client computing device connected to said machine monitoring device by a communications network

2. The system of claim 1 wherein said input and output connectors comprise a plurality of digital input connectors for receiving digital inputs from said machine.

3. The system of claim 1 wherein said input and output connectors comprise a plurality of analog input connectors for receiving analog inputs from said machine.

4. The system of claim 1 wherein said input and output connectors comprise a plurality of digital outputs for transmitting output signals from said machine monitoring device to said machine.

5. The system of claim 1 further comprising a plurality of serial ports for providing serial communications between said machine and said machine monitoring device.

6. The system of claim 1 further comprising an Ethernet port for providing Ethernet communications between said machine and said machine monitoring device.

7. The system of claim 1, wherein said configuration interface reads and writes configuration information for said machine monitoring device, said configuration information being entered by a user when said machine monitoring device is configured.

8. The system of claim 7 wherein said configuration interface module maintains usernames, access and modification rights for said configuration information, and passwords for each user as part of said configuration information.

9. The system of claim 1 wherein said web server comprises

a) a reports CGI module for generating web page user interfaces from which a user can request reports and enter parameters required for said reports from said client computing device, said reports being generated for viewing on said client computing device; and

b) a configuration CGI module for generating web page user interfaces from which a user may enter and view configuration information from said client computing device.

10. The system of claim 1 further comprising a reporter module for automatically generating and automatically transmitting reports to said client computing device.

11. The system of claim 1 wherein said machine monitoring device is a designated machine monitoring device among a plurality of machine monitoring devices, said web server of said designated machine monitoring device generating a web page user interface comprising a list of said plurality of machine monitoring devices and permitting a user to select reports from each of said plurality of machine monitoring devices.

12. A method for monitoring a machine using a machine monitoring device, said method comprising the steps of:

a) connecting said machine to said machine monitoring d vic and configuring said machine monitoring device;

b) monitoring inputs from said machine and performing transformations on said inputs and storing results of said transformations; and

c) generating reports based on said transformations and outputting said reports.

13. The method of claim 12, wherein said configuring further comprises the steps of:

i) determining desired reports and required information for said desired reports;

ii) identifying required inputs from said machine for said desired reports and required outputs for desired output signals from said machine monitoring device to said machine;

iii) connecting said required inputs to input connectors on said machine monitoring device and said required outputs to said output connectors on said machine monitoring device;

iv) connecting said machine monitoring device to a communications network comprising a plurality of client computing devices and configuring said machine monitoring device to communicate on said network;

v) entering basic information to associate said machine with said machine monitoring device on said network;

vi) configuring shifts and time intervals for use in the generation of said desired reports;

vii) associating variables with said required inputs and configuring said transformations;

viii) associating additional variables with the results of additional transformations required to produce report variables, said output signals, e-mail notifications, and e-mail notification escalations;

ix) configuring said desired reports using said report variables and said shifts and time intervals; and

x) storing configuration information entered within said machine monitoring device.

14. The method of claim 12, wherein said monitoring further comprises the steps of:

i) monitoring said inputs for input changes;

ii) performing said transformations in response to said input changes; and

iii) storing changes in report variables resulting from said transformations.

15. The method of claim 12, wherein said generating reports further comprises the steps of:

i) automatically generating a query by a reporter module at configured time intervals or shifts;

ii) processing said query and transmitting the results back to said reporter module; and

iii) generating a report using said reporter module to be transmitted automatically to a client computing device.

16. The method of claim 12, wherein said generating reports further comprises the steps of:

i) entering the Internet Protocol address of said machine monitoring device to cause generation of a menu of available reports;

ii) selecting the desired report from said menu;

iii) generating a query based upon said selection;

iv) processing said query and transmitting the results of said query to a reports CGI module; and

v) generating said desired report.